been obtained for study to establish the etiology of the abscess.

Dr. Finegold mentions that "direct lung puncture is more hazardous in adults than transtracheal aspiration." I would like to go further and condemn the use of this procedure in lung abscess. I believe that there is a real chance that seeding of the pleural space with microorganisms may occur following such a procedure and, even worse, a persistent bronchopleural fistula may be established. Unfortunately, we have seen the latter occur recently in our hospital.

Again I would like to commend the authors for their discussion but urge the early, aggressive and even repeated use of bronchoscopy in patients with lung abscess. Although antibiotics have changed the picture of pyogenic lung abscess to a significant degree their use does not obviate the necessity for specific bacteriologic information, establishment of proper drainage pathways and general supportive care of these patients.

JAMES B. D. MARK, MD
Professor and Head
Division of Thoracic Surgery
Stanford University Medical Center
Stanford, California

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Dr. Murray Replies

TO THE EDITOR: Dr. Mark's letter raises some interesting and controversial points concerning the role of bronchoscopy in patients with lung abscess. In my opinion, bronchoscopy is useful in these patients under two different circumstances: as an aid in diagnosis and as an ancillary means of managing the patient.

First, bronchoscopy is a time-honored and valuable procedure in patients with a wide variety of pulmonary lesions of uncertain origin, including lung abscess. Furthermore, the diagnostic yield from bronchoscopy has been magnified considerably in recent years owing to the increased range of observation and access available to the fiberoptic instrument. But if the specific cause of a lung abscess has been established by other methods, and there are no unusual features to the patient's illness (for example, an abscess in an edentulous person, suspicion of foreign body or bronchogenic carcinoma), bronchoscopy is not warranted simply because an abscess is present. This recommendation certainly is true for lung abscesses caused by necrotizing infections such as tuberculosis and coccidioidomycosis and, I believe also holds true for pyogenic lung abscesses caused by anaerobes, staphylococci or klebsiella. Once the diagnosis is made by Gram stain and culture and appropriate antimicrobial therapy instituted, the great majority of patients with lung abscess from necrotizing infections will recover without ever having been bronchoscoped.

The value of bronchoscopy as a means of obtaining secretions is probably not as reliable as implied by Dr. Mark. The limitations of the procedure, which were touched on by Dr. Finegold, have been confirmed by a recent article.[1]

Second, bronchoscopy is useful as a means of promoting drainage of abscesses, especially if a catheter can be inserted into the cavity. Thus we perform bronchoscopy in patients with lung abscess who demonstrate signs of retention of pus in the cavity (persistent fever, leukocytosis, systemic toxicity and a fluid level) five to ten days after antimicrobial therapy has been started. Material is obtained for culture and airway obstruction is looked for, but the procedure is chiefly to get rid of pus. When effective, we have no hesitation in repeating bronchoscopy, as recommended by Dr. Mark, as often as needed.

These policies were carried out in the patient under discussion who was bronchoscoped, as stated in the protocol, while he was being followed as an outpatient with suspected tuberculosis. Later, after he was hospitalized and failed to respond to nine days of penicillin therapy, another bronchoscopy was recommended but the patient signed out against advice. He could have been bronchoscoped during his admission to the University of California Hospital but his prompt response to clindamycin made this unnecessary.

JOHN F. MURRAY, MD
Chief, Chest Service
San Francisco General Hospital
Professor of Medicine
University of California, San Francisco

REFERENCE

1. Bartlett JG, Alexander J, Mayhew J, et al: Should fiberoptic bronchoscopy aspirates be cultured? Am Rev Resp Dis 114:73, 1976

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Dr. Finegold Replies

TO THE EDITOR: I appreciate the opportunity to read and respond to the letter by Dr. Mark.

I certainly agree that early, and even repeated, bronchoscopy can be a valuable diagnostic and therapeutic tool, as he has stressed. In the particular patient discussed in the June Medical Staff Conference, it should have been clear on clinical grounds (as discussed by Dr. Murray and me)

that the patient had an anaerobic lung abscess. The only question diagnostically was related to the possibility of an associated condition such as foreign body, tumor or tuberculosis. Bronchoscopy, of course, can be helpful in ruling out such possibilities as well as in effecting adequate drainage. It is important to note, however, that fiberoptic or other bronchoscopy is not suitable for obtaining specimens for culture of bacteria (particularly anaerobic bacteria) other than Mycobacterium since it is not possible to avoid "contamination" of the specimen with resident or transient bacterial flora from the upper respiratory tract. Potential aerobic or facultative pathogens are found with some frequency in the upper respiratory tract flora and anaerobes are universally present there. Furthermore, the local anesthetic used (often in relatively large volume) during bronchoscopy is inhibitory to many bacteria. Whether quantitative bacteriological studies of material obtained through a bronchoscope with appropriate covering sleeve technique would permit distinction between resident and infecting flora has not yet been determined.

SYDNEY M. FINEGOLD, MD
Chief, Infectious Disease Section
Wadsworth Veterans Administration Hospital Center, Los Angeles
Professor of Medicine
University of California, Los Angeles School of Medicine

More on Physician Extenders

TO THE EDITOR: In answer to the letter opposing the physician extender concept by Eugene Felmar, MD, Granada Hills, California [West J Med 24:509, Jun 1976]. The Medex, physician's assistants and nurse practitioners were never intended to replace the service of the MD, but were intended to extend the doctor's capacity of practice and allow him to spend more time with those patients with critical problems. The training of these new medical entities and the services they provide is far from "cut-rate." Was Dr. Felmar on the battlefields of Vietnam when soldiers entrusted their lives to "those barefoot physicians"? Has he responded to the needs of the farm workers of the Salinas Valley who are unable to afford medical care? Has he visited the Indian Reservation Clinics of Arizona and New Mexico, where uneducated people don't even know the meaning of prenatal care? These new medical entities were developed to implement these services and care in areas where physicians are scarce or nonexistent, as the monetary compensation is grossly unsupportive.

Regarding Dr. Felmar's statement that ". . . we are embarking on a two level highway; on the upper highway will be university-trained physicians who will deliver health care to the affluent and probably the politicians and on the lower level will be nurse practitioners and paramedics and/or midwives who will deliver health care to the community." The NP's, Medex and PA's also have had college training, internships and board certification, which Dr. Felmar has failed to note.

No one is asking Dr. Felmar to accept the responsibility for these new practitioners, but is he willing to accept the responsibility for the health care needs of the poor and uneducated? It is beyond my comprehension how any reasonably aware person can discount the good these new paraprofessionals have done in the extension and resolution of the health care needs of people who are grateful to receive their help.

Dr. Felmar should speak to the supervising physicians employing the Medex, NP's and PA's, and see these practitioners at work before passing judgment.

MICHAEL N. ROSOFF, MEDEX, PA
Los Angeles

Improving Quality of Life

TO THE EDITOR: The Congresses on Improving the Quality of Life sponsored by the American Medical Association in 1971, 1972 and 1973 were actually diagnostic exercises. Many of those attending came to the meetings believing that they were to hear about and assist in the discussions of the role of the medical profession in improving the quality of life. Instead the discussions were aimed at dissecting and examining the factors that cause us humans to live a happier and more comfortable life.

Following an accurate diagnosis, improving the quality of life comes naturally. Almost every branch of human endeavor must become involved.

THE WESTERN JOURNAL OF MEDICINE is to be congratulated in pursuing this notable endeavor by conducting the forum on "Medicine and the Quality of Life."

WALTER C. BORNEMEIER, MD
Past President, AMA
Saratoga, CA